

SERIAL NO. 09/426,644

DOCKET NO. 1349.1022

REMARKS

INTRODUCTION:

In accordance with the foregoing, the Abstract has been amended to be under 150 words. Claim 2 has been amended to correct a typographical error and has not been amended to narrow the scope of the claim.

No new matter is being presented, and approval and entry of the foregoing amendments are respectfully requested.

Claims 1, 2, 13-17, 19, 21, 23, 24, 27, 30, 38, 40, and 42 are pending and under consideration. Reconsideration is requested.

OBJECTION TO THE ABSTRACT:

In the Office Action at page 2, the Examiner objects to the Abstract as not being under 150 words. In view of the proposed amended Abstract set forth above, the outstanding objection to the Abstract should be resolved.

REJECTION UNDER 35 U.S.C. §102:

In the Office Action at pages 2-3, the Examiner rejects claims 1, 2, 38, 17, and 40 under 35 U.S.C. §102 in view of pages 1-3 and FIGs. 1 and 2 of the instant application (hereinafter referred to as the "Other Device"). This rejection is respectfully traversed and reconsideration is requested.

As an initial point, the Examiner asserts on page 3 of the Office Action that the Other Device discloses, among other features, splitting the fluid jetting apparatuses in the form of a wafer into separate fluid jetting apparatuses. As a point of clarification, claim 1 recites, among other features, "adhering a membrane to the formed nozzle part and a heat driving part including fluid chambers for the corresponding fluid jetting apparatuses so as to position the membrane between the heat driving part and the nozzle part to separate the fluid chambers from nozzles of the nozzle part in order to form the fluid jetting apparatuses in a shape of an undivided wafer to be split into separate fluid jetting apparatuses."

As acknowledged by the Examiner in the Advisory Action mailed September 27, 2001, the Other Device discloses forming individual fluid jetting apparatuses individually in a piece-by-piece method. After the filing of a Continued Prosecution Application (CPA) on October 17, 2001, the Examiner withdrew a similar rejection of claim 1 based on the Other Device in view of this acknowledgement. As such, it is respectfully requested that the Examiner reconsider the rejection of claims 1, 2, 38, 17, and 40 due at least to the Examiner's acknowledgement that the

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Other Device shows a piece by piece manufacturing process, whereas claims 1 an 17 recite the formation of multiple fluid jetting apparatuses on an undivided wafer or unit.

Additionally, in order to form the nozzle parts 30, a roll of material for the nozzle plates 32 moves past the treating apparatus 53. The nozzles 34 are formed on areas that become the nozzle plates 32. After the nozzles 34 are formed, the individual nozzle plates 32 are mated with a corresponding actuator chip 40. The actuator chip 40 includes a lamination of the jetting fluid barrier 31 to the substrate 11 shown in FIG. 1. As shown in FIG. 2, the actuator chip 40 is individually attached to the nozzle plates 32. Therefore, with the exception of the nozzle plates 32, the remaining components of the fluid jetting apparatus are manufactured piece-by-piece as the actuator chip 40 for each fluid jetting apparatus is individually attached to the corresponding nozzles 34. (Paragraphs 0013 and 0014; FIGs. 1 and 2 of published application).

However, as shown in FIG. 1, there is no suggestion that the actuator chip 40 can be split with the formed nozzle plate 32 to form individual fluid jetting apparatuses since each chip 40 is individually adhered as shown in FIG. 2. Moreover, as shown in FIG. 1, as there is only one nozzle 34 and one driving fluid chamber 16 for each fluid jetting apparatus, there is no suggestion that the combined actuator chip 40 and the nozzle plate 32 has nozzles 34 and chambers 16 suitable to splitting into plural fluid jetting apparatuses instead of the piece-by-piece manufacture shown in FIG. 2.

As such, it is respectfully submitted that, consistent with prior statements from the Examiner, the Other Device does not disclose or suggest "adhering a membrane to the formed nozzle part and a heat driving part including fluid chambers for the corresponding fluid jetting apparatuses so as to position the membrane between the heat driving part and the nozzle part to separate the fluid chambers from nozzles of the nozzle part in order to form the fluid jetting apparatuses in a shape of an undivided wafer to be split into separate fluid jetting apparatuses" as recited in claim 1.

For similar reasons, it is respectfully submitted that the Other Device does not disclose or suggest "adhering the membrane with the adhered nozzle part to a heat driving part such that the membrane is between chambers in the heat driving part and jetting fluid chambers of the nozzle part to form the fluid jetting apparatuses as an undivided unit" as recited in claim 17.

Claims 2, 38, and 40 are deemed patentable due at least to their depending from corresponding claims 1 and 17.

REJECTION UNDER 35 U.S.C. §103:

In the Office Action at page 4, the Examiner rejects claims 17 and 40 under

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35 U.S.C. §103 in view of the Other Device and Japanese Patent Publication No. 10-181029. The rejection is respectfully traversed and reconsideration is requested.

As a point of clarification, the Examiner asserts that Japanese Patent Publication No. 10-181029 suggests forming multiple nozzle parts 21 on a silicon wafer 100 that is later removed. However, as explained in corresponding U.S. Patent No. 5,719,605, Japanese Patent Publication No. 10-181029 teaches a cell 21 of a printhead 29 including a nozzle plate 30 and a chip 20. The chip 20 is of silicon and includes a via 52 in the silicon which connects the nozzles 30a to an ink holding reservoir 32 as shown in FIG. 5 of Japanese Patent Publication No. 10-181029, and FIG. 3 of U.S. Patent No. 5,719,605. The cells 21 themselves are diced from a larger wafer 100 in order to include one or more formed cells 21. As such, each chip 20 is diced from the wafer 100 in order to form the printhead 29 having the cell 21 or cells 21. (Col. 6, lines 31-61 of U.S. Patent No. 5,719,605). The remaining structure of the cells 21 are formed individually on the chip 20 using a photolithographic process as set forth in col. 4, lines 53-65 of U.S. Patent No. 5,719,605. As such, it is respectfully submitted that the wafer 100 is not removed from the nozzle plate 30 or the chip 20. In contrast, claim 17 recites, among other features, "removing the silicon wafer from the nozzle part." As such, since the Other Device does not disclose such a feature for reasons similarly set forth above in relation to the rejection of claim 1, it is respectfully submitted that the combination of the Other Device and Japanese Patent Publication No. 10-181029 does not disclose or suggest the invention recited in claim 17.

In addition, even assuming arguendo that the Examiner is correct as to the disclosure of Japanese Patent Publication No. 10-181029, it is respectfully submitted that the Examiner does not rely on Japanese Patent Publication No. 10-181029 as curing the above noted defect of the Other Device as applied to claim 17 as set forth above in the anticipation rejection of claims 1 and 17. As such, it is respectfully submitted that the combination of the Other Device and Japanese Patent Publication No. 10-181029 does not disclose or suggest the invention recited in claim 17.

Claim 40 is deemed patentable due at least to its depending from claim 17.

STATUS OF CLAIMS NOT REJECTED:

On page 5, the Examiner allows claims 13-16, 19, 21, 23, 24, 27, 30, and 42.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. And further, it is

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respectfully submitted that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any additional fees associated with the filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

By: 

James G. McEwen
Registration No. 41,983

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

Date: April 22, 2004

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being transmitted via facsimile to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on April 22, 2004 STAAS & HALSEY By: James G. McEwen Date: April 22, 2004